

## PATENT

Attorney's Docket No. 5576-128

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Shima et al.

Appl. No.: 09/605,815

Filed: June 28, 2000

For: METHOD FOR REDUCING PULP TO  
POWDER AND PROCESS FOR THE  
PRODUCTION OF A CELLULOSE ETHER

Confirmation No.: 5346

Group Art Unit: 1656

Examiner: S. Houtteman

July 19, 2002

Commissioner for Patents  
Washington, DC 20231

## AMENDMENT

Sir:

This is in response to the Office Action mailed March 19, 2002, in the above-referenced application.

In the Claims:

Please amend claims 4 - 6 as follows:

4. (Once amended) A process for the production of a cellulose ether, comprising obtaining a powdered pulp by a method as claimed in claim 1, and producing cellulose ether by using the powdered pulp as a starting material.
5. (Once amended) A process for the production of a cellulose ether, comprising obtaining a powdered pulp by a method as claimed in claim 2, and producing cellulose ether by using the powdered pulp as a starting material.
6. (Once amended) A process for the production of a cellulose ether, comprising obtaining a powdered pulp by a method as claimed in claim 3, and producing cellulose ether by using the powdered pulp as a starting material.

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### REMARKS

Claims 4-6 stand rejected under 35 USC § 112, second paragraph, as being indefinite. Claims 1- 6 stand rejected under 35 USC § 102 as unpatentable over Tanaka, unexamined Japanese Patent 9-76233. Claim 1- 6 stand rejected under 35 USC § 103 in view of Downing et al., U.S. Pat. No. 2,663,907. Applicants respectfully traverse these rejections.

#### Rejection under 35 USC § 112, second paragraph

Claims 4-6 have been amended to recite the method claims in the form of clearly defined method steps. Thus the rejection under 35 USC § 112, second paragraph has been overcome.

#### Rejection under 35 USC § 102

Claims 1- 6 stand rejected under 35 USC § 102 as unpatentable over Tanaka. The claimed invention is directed to a method of reducing pulp to a powder by means of a vertical roller mill. Cellulose ether may then be produced by reacting the pulp powder with a series of chemical reactants. The quality of the pulp powder starting material determines the quality of the resultant cellulose ether. For instance, undissolved fiber present within cellulose ether degrades the properties of polymers formed from the cellulose ether. It is therefore an object of the invention to provide a superior powdered pulp which may be used to produce a cellulose ether product of superior quality. As seen in Claim 1, the invention is directed to a method for grinding *pulp*.

To the contrary of the claimed invention, the Tanaka reference is directed to grinding processes for producing *cellulose ether* powder. See the abstract, claim 1, and paragraph 0009 of the translation supplied with the Office Action. Tanaka does not disclose grinding of a pulp precursor material, as claimed in the application. Further, Tanaka does not teach or discuss the need or desire of a pulp, ground with a vertical roller mill, for use in cellulose ether. Therefore, the present claims are not anticipated by or obvious in view of Tanaka.

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Rejection under 35 USC § 103

Claims 4-6 stand rejected under 35 USC § 103 in view of Downing and further in view of Tanaka. The disclosure of Tanaka has been discussed above. The Downing reference discloses a method of reducing cellulose by repeatedly compressing the cellulose between pairs of rollers until the cellulose loses its fibrous appearance. The cellulose is then further broken down with a hammer mill. See col. 1, line 47 to col. 2, line 5. Downing does not disclose, teach, or suggest the use of a vertical roller mill for reduction of pulp to a powdered pulp for use in the production of cellulose ether.

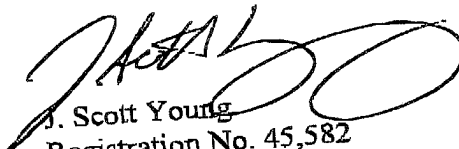
Thus, neither the Downing, nor the Tanaka reference disclose, teach, or suggest a method of producing cellulose ether using pulp produced by means of a vertical roller mill, as recited in Claims 4-6. Further, there is no motivation for one skilled in the art to combine the references.

Conclusion

The rejections of record having been addressed above in full, it is submitted that this application is now in condition for allowance, which action is respectfully requested. Should the Examiner have any questions regarding this matter, it is requested that the Examiner contact the undersigned at his convenience to expedite prosecution.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

  
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**CERTIFICATION OF FACSIMILE TRANSMISSION**

I hereby certify that this paper is being facsimile transmitted to Examiner Houtteman at the Patent and Trademark Office at facsimile number (703) 308-2742, on the date shown below.

Janet F. Moore

(Type or print name of person signing certification.)

Janet F. Moore

Signature

7-19-02

Date